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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,698	12/17/2003	Lan Chen	246696US90	5689

22850 7590 12/28/2009

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EXAMINER	
VIANA DI PRISCO, GERMAN	
ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
12/28/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/736,698	CHEN ET AL.	
	Examiner	Art Unit	
	GERMAN VIANA DI PRISCO	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 October 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,5,7 and 8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,5,7 and 8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/05/2009 has been entered.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 3, 5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al. ("Itoh", United States Patent Application Publication No.: US 2006/0205358 A1) in view of Alastalo (United States Patent No.: 6,721,302 B1), and further in view of Takano (United States Patent Application Publication No.: US 2003/0148780 A1).

Consider claims 1, 3, 5, and 7, Itoh shows and discloses a packet communications system for carrying out packet communications between a base station 2 and a mobile station 1_1 located in an area controlled by the base station, the system comprising a channel quality detecting unit configured to detect a channel quality

between the base station and the mobile station (Receiving Quality Judging Unit 21 in figure 3 and paragraph [0141], and Receiving Quality Estimation Unit 50 in figure 8 and paragraph [0153]); a buffered data monitoring unit configured to monitor the amount of data buffered in a transmission buffer of the base station (control unit 86 in figure 14 and paragraphs [0226] and [0228]); and a modulation scheme determination unit configured to determine a modulation scheme for the packet communications based on the channel quality and the buffered data amount in the transmission buffer (control unit 22 in figure 3 and paragraph [0125]).

Itoh further teaches that the modulation scheme determination unit is configured to determine the modulation scheme that satisfies a prescribed communication condition (channel quality) (paragraph [108])

However Itoh does not explicitly disclose that the modulation scheme determination unit is configured to determine the modulation scheme by selecting a modulation scheme that uses a smallest available transmission block size that is greater than or equal to the amount of data buffered or making padding, which is added to the data buffered in the transmission buffer when the buffered data amount is less than a transmission unit size, become the minimum, based on the channel quality and the buffered data amount.

In the same field of endeavor Alastalo discloses that the modulation scheme determination unit is configured to determine the modulation scheme by selecting a modulation scheme that uses a smallest available transmission block size that is greater than or equal to the amount of data buffered (by changing the modulation scheme the

length of the packet is also changed with the objective of minimizing the amount of padding which corresponds to the smallest available transmission block that can carry the data to be transmitted) (column 3, lines 38-43), and making padding, which is added to the data buffered in the transmission buffer when the buffered data amount is less than a transmission unit size, become the minimum, based on the channel quality and the buffered data amount (by changing the modulation scheme the length of the packet is also changed with the objective of minimizing the amount of padding) (Alastalo, column 3, lines 38-43).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to select the modulation scheme as disclosed by Alastalo in the system of Itoh in order to improve throughput.

Nonetheless the combination of Itoh and Alastalo does not explicitly disclose establishing a list of available modulation schemes, each modulation scheme having an available transmission block size.

In the same field of endeavor, Takano teaches establishing a list of available modulation schemes, each modulation scheme having an available transmission block size (figure 10 and paragraph [0005]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to establishing a list of available modulation schemes, each modulation scheme having an available transmission block size as taught by Takano in the system of Itoh as modified by Alastalo in order to use the optimum transmission power.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Itoh et al. ("Itoh", United States Patent Application Publication No.: US 2006/0205358 A1) in view of Alastalo (United States Patent No.: 6,721,302 B1), and of Takano (United States Patent Application Publication No.: US 2003/0148780 A1), and further in view of Hashem et al. ("Hashem", United States Patent No.: US 7,603,127 B2).

Consider claim 8, and as applied to claim 1 above, Itoh as modified by Alstalo and Takano doses not expressly disclose that the prescribed communication condition is satisfied when a signal to interference noise ratio corresponding to the channel quality in the packet transmission direction exceeds a minimum signal to interference noise ratio for the modulation scheme.

In the same field of endeavor Hashem discloses that the prescribed communication condition is satisfied when a signal to interference noise ratio corresponding to the channel quality in the packet transmission direction exceeds a minimum signal to interference noise ratio for the modulation scheme (see Fig. 2 and Col. 1, ll. 26-36 and Col.4, ll. 20-28).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use adaptive modulation as disclosed by Hashem in the system of Itoh as modified by Alstalo and Takano in order to accommodate changes in channel characteristics over time.

Response to Arguments

5. Applicant's arguments filed 10/05/2009 have been fully considered but they are not persuasive.

Applicant basically argues that Alastalo does not teach making the padding a minimum because Alastalo teaches reducing the amount of padding and not making padding a minimum. The Examiner respectfully disagrees with Applicant's interpretation because since padding carries no information it lowers the efficiency of a communication system, so from an efficiency standpoint the less padding the better. Therefore when Alastalo teaches reducing the amount of padding, a person of ordinary skill in the art would clearly understand that the objective is to minimize the amount of padding.

Conclusion

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
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Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERMAN VIANA DI PRISCO whose telephone number is (571)270-1781. The examiner can normally be reached on Monday through Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Germán Viana Di Prisco/
Examiner, Art Unit 2617

/Rafael Pérez-Gutiérrez/
Supervisory Patent Examiner, Art Unit 2617

December 9, 2009